

We claim:

1. A method of producing a golf ball, said method comprising:
providing a core material;
5 forming a molded core from said core material;
providing a cover material having a melt index of 15 g/10 minutes or more at a temperature of 200°C to 210°C and a load of 8.7 Kg, said cover material comprising a polyurethane, polyurea or blends thereof;
molding a cover layer from said cover material;
10 applying an isocyanate to said cover layer for a time period of from about 30 seconds to about 10 minutes.

2. The method of claim 1, wherein said isocyanate is selected from the group consisting of 4,4'-diphenylmethane diisocyanate ("MDI"); 2,4-toluene diisocyanate ("TDI"); m-xylylene diisocyanate ("XDI"); methylene bis-(4-cyclohexyl isocyanate) ("HMDI"); hexamethylene diisocyanate ("HDI"); naphthalene-1,5,-diisocyanate ("NDI"); 3,3'-dimethyl-4,4'-biphenyl diisocyanate ("TODI"); 1,4-diisocyanate benzene ("PPDI"); phenylene-1,4-diisocyanate; 2,2,4- or 2,4,4-trimethyl hexamethylene diisocyanate ("TMDI"); isophorone diisocyanate ("IPDI"); 1,4-cyclohexyl diisocyanate ("CHDI"); diphenylether-4,4'-diisocyanate; p,p'-diphenyl diisocyanate; lysine diisocyanate ("LDI"); 1,3-bis (isocyanato methyl) cyclohexane; polymethylene polyphenyl isocyanate ("PMDI"); meta-tetramethylxylylene diisocyanate ("TMXDI"); and combinations thereof.

3. The method of claim 1, wherein said isocyanate is MDI.

4. The method of claim 1, in which said isocyanate is applied to said cover layer by an operation selected from the group consisting of dipping, wiping, soaking, spraying, brushing, and combinations thereof.

5. A golf ball produced by the process of claim 1.

6. The method of claim 1, wherein the cover material has a melt index of 20 g/10 min or ore at a temperature of 200°C to 210°C and a load of 8.7 kg prior to molding.

7. The method of claim 1, wherein the cover material has a melt index of 25 g/10 min or ore at a temperature of 200°C to 210°C and a load of 8.7 kg prior to molding.

8. The method of claim 1, wherein the cover material has a melt index of 30 g/10 min or ore at a temperature of 200°C to 210°C and a load of 8.7 kg prior to molding.

9. A method for producing a golf ball, said method comprising:

providing a core material;

forming a molded core from said core material;

providing a cover material, said cover material including a polyurethane, said cover material exhibiting a melt index of from about 35 to about 85 grams per 10 minutes at a temperature of 200°C to 210°C and a load of 8.7 kg;

molding a cover layer from said cover material about said core; and

applying an isocyanate to the molded cover layer.

10. The method of claim 9, wherein said isocyanate is selected from the group consisting of 4,4'-diphenylmethane diisocyanate ("MDI"); 2,4-toluene diisocyanate ("TDI"); m-xylylene diisocyanate ("XDI"); methylene bis-(4-cyclohexyl isocyanate) ("HMDI"); hexamethylene diisocyanate ("HDI"); naphthalene-1,5,-diisocyanate ("NDI"); 3,3'-dimethyl-4,4'-biphenyl diisocyanate ("TODI"); 1,4-diisocyanate benzene ("PPDI"); phenylene-1,4-diisocyanate; 2,2,4- or 2,4,4-trimethyl hexamethylene diisocyanate ("TMDI"); isophorone diisocyanate ("IPDI"); 1,4-cyclohexyl diisocyanate ("CHDI"); diphenylether-4,4'-diisocyanate; p,p'-diphenyl diisocyanate; lysine diisocyanate ("LDI"); 1,3-bis (isocyanato methyl) cyclohexane; polymethylene polyphenyl isocyanate ("PMDI"); meta-tetramethylxylylene diisocyanate ("TMXDI"); and combinations thereof.

11. The method of claim 9, wherein said isocyanate is MDI.

12. The golf ball produced by the method of claim 9.

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13. A method for producing a golf ball, said method comprising:

providing a core material;

forming a molded core from said core material;

10 providing a cover material, said cover material including a thermoplastic polyurethane, polyurea or blends thereof and where the cover has an increased melt index of 10% or more;

molding a cover layer from said cover material about said core; and

applying an isocyanate to the molded cover layer.

14. The method of claim 13, further comprising the step of forming one or more intermediate layers between said core and said cover.

15. The method of claim 13, further comprising the step of heating the cover prior to application of said isocyanate.

16. The method of claim 13, wherein said heating is at a temperature of from about 110°F to about 250°F.

17. The method of claim 13, wherein said isocyanate is selected from the group consisting of 4,4'-diphenylmethane diisocyanate ("MDI"); 2,4-toluene diisocyanate ("TDI"); m-xylylene diisocyanate ("XDI"); methylene bis-(4-cyclohexyl isocyanate) ("HMDI"); hexamethylene diisocyanate ("HDI"); naphthalene-1,5,-
5 diisocyanate ("NDI"); 3,3'-dimethyl-4,4'-biphenyl diisocyanate ("TODI"); 1,4-diisocyanate benzene ("PPDI"); phenylene-1,4-diisocyanate; 2,2,4- or 2,4,4-trimethyl hexamethylene diisocyanate ("TMDI"); isophorone diisocyanate ("IPDI"); 1,4-cyclohexyl diisocyanate ("CHDI"); diphenylether-4,4'-diisocyanate; p,p'-diphenyl diisocyanate; lysine diisocyanate ("LDI"); 1,3-bis (isocyanato methyl) cyclohexane;
10 polymethylene polyphenyl isocyanate ("PMDI"); meta-tetramethylxylylene diisocyanate ("TMXDI"); and combinations thereof.

18. The method of claim 13, wherein said isocyanate is MDI.

19. The golf ball produced by the method of claim 13.